WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Term	Documents
CROSS	2345609
CROSSES	69078
CD28	2892
CD28S	0
ANTIBOD$	0
ANTIBOD	770
ANTIBODANTIBODA	1
ANTIBODAY	1
ANTIBODEES	2
ANTIBODEIES	1
ANTIBODEIS	2
((ANTIBOD$) SAME (CROSSLINK$ OR CROSS ADJ LINK$)SAME (CD28)).USPT,PGPB,JPAB,EPAB,DWPI.	147

There are more results than shown above. Click here to view the entire set.

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L7

Refine Search

Recall Text | Clear

Search History

DATE: Wednesday, July 02, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ		
L8	('CMY-2') same antibod$ and cd28	0	L8
L7	(antibod$) same (crosslink$ or cross adj link$)same (cd28)	147	L7
L6	(cd28) same (antibod$) and (antibod$) same (crosslink$ or cross adj link$)same (cd28)	147	L6
L5	(cd28) same (antibod$) and (antibod$) same (crosslink$ or cross adj link$)	1490	L5
L4	L3 and (crosslink$ or cross adj link$)	37	L4
L3	(cd28) same (antibod$) same (agonist$)	51	L3
L2	hunig-thomas$	1	L2
	DB=USPT,PGPB; PLUR=YES; OP=ADJ		
L1	hunig-thomas$	0	L1

END OF SEARCH HISTORY

WEST

Help | Logout | Interrupt

Main Menu | Search Form | Posting Counts | Show S Numbers | Edit S Numbers | Preferences | Cases

Search Results -

Term	Documents
CMY-2	0
CMY-2S	0
CD28	2892
CD28S	0
ANTIBOD$	0
ANTIBOD$	0
((CMY-2 SAME ANTIBOD$) AND CD28).USPT,PGPB,JPAB,EPAB,DWPI.	0
(('CMY-2') SAME ANTIBOD$ AND CD28).USPT,PGPB,JPAB,EPAB,DWPI.	0

Database: US Patents Full-Text Database; US Pre-Grant Publication Full-Text Database; JPO Abstracts Database; EPO Abstracts Database; Derwent World Patents Index; IBM Technical Disclosure Bulletins

Search: L8

Refine Search

Recall Text | Clear

Search History

DATE: Wednesday, July 02, 2003 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ		
L7	(antibod$) same (crosslink$ or cross adj link$)same (cd28)	147	L7
L6	(cd28) same (antibod$) and (antibod$) same (crosslink$ or cross adj link$)same (cd28)	147	L6
L5	(cd28) same (antibod$) and (antibod$) same (crosslink$ or cross adj link$)	1490	L5
L4	L3 and (crosslink$ or cross adj link$)	37	L4
L3	(cd28) same (antibod$) same (agonist$)	51	L3
L2	hunig-thomas$	1	L2
	DB=USPT,PGPB; PLUR=YES; OP=ADJ		
L1	hunig-thomas$	0	L1

END OF SEARCH HISTORY

```
  begin 5,73,155,399
       02jul03 07:37:25 User208760 Session D2323.2
            $0.00    0.070 DialUnits File410
      $0.00  Estimated cost File410
      $0.01  TELNET
      $0.01  Estimated cost this search
      $0.31  Estimated total session cost   0.155 DialUnits

 SYSTEM:OS  - DIALOG OneSearch
   File   5:Biosis Previews(R)  1969-2003/Jun W4
          (c) 2003 BIOSIS
   File  73:EMBASE  1974-2003/Jun W4
          (c) 2003 Elsevier Science B.V.
 *File  73: Alert feature enhanced for multiple files, duplicates
 removal, customized scheduling. See HELP ALERT.
   File 155:MEDLINE(R)  1966-2003/Jun W4
          (c) format only 2003 The Dialog Corp.
 *File 155: Medline has been reloaded and accession numbers have
 changed.  Please see HELP NEWS 155.
   File 399:CA SEARCH(R)  1967-2003/UD=13901
          (c) 2003 American Chemical Society
 *File 399: Use is subject to the terms of your user/customer agreement.
 Alert feature enhanced for multiple files, etc. See HELP ALERT.

       Set  Items  Description
       ---  -----  -----------
 ? e au=hunig thomas $

 Ref    Items  Index-term
 E1         3  AU=HUNIG T.R.
 E2        13  AU=HUNIG THOMAS
 E3         0 *AU=HUNIG THOMAS $
 E4         2  AU=HUNIG, I.
 E5         1  AU=HUNIG, S.
 E6        15  AU=HUNIG, SIEGFRIED
 E7         6  AU=HUNIG, T.
 E8        22  AU=HUNIG, THOMAS
 E9         6  AU=HUNIGEN E
 E10        1  AU=HUNIGEN E.
 E11        9  AU=HUNIGEN H
 E12        8  AU=HUNIGEN H.

          Enter P or PAGE for more
 ? e au=hunig thomas ?

 Ref    Items  Index-term
 E1         3  AU=HUNIG T.R.
 E2        13  AU=HUNIG THOMAS
 E3         0 *AU=HUNIG THOMAS ?
 E4         2  AU=HUNIG, I.
 E5         1  AU=HUNIG, S.
 E6        15  AU=HUNIG, SIEGFRIED
 E7         6  AU=HUNIG, T.
 E8        22  AU=HUNIG, THOMAS
 E9         6  AU=HUNIGEN E
 E10        1  AU=HUNIGEN E.
 E11        9  AU=HUNIGEN H
 E12        8  AU=HUNIGEN H.

          Enter P or PAGE for more
 ? s e1-e8
              3  AU=HUNIG T.R.
             13  AU=HUNIG THOMAS
              0  AU=HUNIG THOMAS ?
```

```
                2  AU=HUNIG, I.
                1  AU=HUNIG, S.
               15  AU=HUNIG, SIEGFRIED
                6  AU=HUNIG, T.
               22  AU=HUNIG, THOMAS
      S1       62  E1-E8
? s s1 and cd28
               62  S1
            14859  CD28
      S2       11  S1 AND CD28
? rd s2
...completed examining records
      S3        9  RD S2 (unique items)
? t s3/7/all

 3/7/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2003 The Dialog Corp. All rts. reserv.

14931553   22593310   PMID: 12707299
  Topological requirements and signaling properties of T cell-activating,
anti-CD28 antibody superagonists.
  Luhder Fred; Huang Yun; Dennehy Kevin M; Guntermann Christine; Muller
Ingrid; Winkler Erna; Kerkau Thomas; Ikemizu Shinji; Davis Simon J; Hanke
Thomas; Hunig Thomas
  Institute for Virology and Immunobiology, University of Wurzburg,
Versbacher Str. 7, D-97078 Wurzburg, Germany.
  Journal of experimental medicine (United States) Apr 21 2003, 197 (8)
p955-66, ISSN 0022-1007 Journal Code: 2985109R
  Comment on J Exp Med. 2003 Apr 21;197(8) 949-53; Comment on PMID 12707298
  Document type: Comment; Journal Article
  Languages: ENGLISH
  Main Citation Owner: NLM
  Record type: Completed
  Full activation of naive T cells requires both engagement of the T cell
antigen receptor (TCR; signal 1) and costimulatory signaling by CD28
 (signal 2). We previously identified two types of rat CD28-specific
monoclonal antibodies (mAbs): "conventional," TCR signaling-dependent
costimulatory mAbs and "superagonistic" mAbs capable of inducing the full
activation of primary resting T cells in the absence of TCR ligation both
in vitro and in vivo. Using chimeric rat/mouse CD28 molecules, we
show that the superagonists bind exclusively to the laterally exposed C"D
loop of the immunoglobulin-like domain of CD28 whereas conventional,
costimulatory mAbs recognize an epitope close to the binding site for the
natural CD80/CD86 ligands. Unexpectedly, the C"D loop reactivity of a panel
of new antibodies raised against human CD28 could be predicted solely
on the basis of their superagonistic properties. Moreover, mouse CD28
molecules engineered to express the rat or human C"D loop sequences
activated T cell hybridomas without TCR ligation when cross-linked by
superagonistic mAbs. Finally, biochemical analysis revealed that
superagonistic CD28 signaling activates the nuclear factor kappaB
pathway without inducing phosphorylation of either TCRzeta or ZAP70. Our
findings indicate that the topologically constrained interactions of anti-
CD28 superagonists bypass the requirement for signal 1 in T cell
activation. Antibodies with this property may prove useful for the
development of T cell stimulatory drugs.
  Record Date Created: 20030422
  Record Date Completed: 20030605


 3/7/2     (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2003 The Dialog Corp. All rts. reserv.
```

14709294 22583712 PMID: 12697665
Mitogenic signals through **CD28** activate the protein kinase Ctheta-NF-kappaB pathway in primary peripheral T cells.
Dennehy Kevin M; Kerstan Andreas; Bischof Astrid; Park Jung-Hyun; Na Shin-Young; **Hunig Thomas**
Institute for Virology and Immunobiology, University of Wurzburg, 97078 Wurzburg, Germany Experimental Immunology Branch, National Cancer Institute, National Institutes of Health, Bethesda, MD 20892, USA.
International immunology (England) May 2003, 15 (5) p655-63, ISSN 0953-8178 Journal Code: 8916182
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: In Process
Mitogenic anti-**CD28** antibody stimulates all peripheral T cells to proliferate in the absence of TCR ligation, providing an exception to the two-signal requirement of T cell responses. This antibody preferentially recognizes a mobilized signaling-competent form of **CD28**, normally induced following TCR ligation, thus providing a unique non-physiological tool to dissect **CD28** -specific signals leading to T cell proliferation. The protein kinase C (PKC)theta-NF-kappaB pathway has recently been shown to integrate TCR- and **CD28**-derived signals in co-stimulation. We now demonstrate that this pathway is activated by mitogenic anti-**CD28** antibody stimulation. In contrast to conventional anti-**CD28** antibody, mitogenic anti-**CD28** antibody induced activation of phospholipase Cgamma and Ca(2+) flux in peripheral rat T cells despite no or low levels of inducible tyrosine phosphorylation of TCRzeta chain, TCRzeta-associated protein of 70 kDa (ZAP-70) or linker for activation of T cells (LAT)-critical components of the TCR signaling machinery. Nevertheless, PKCtheta kinase activity in vitro was increased following mitogenic anti-**CD28** antibody stimulation, as was membrane association of both PKCtheta and Bcl10. As downstream targets of PKCtheta activation, NF-kappaB components translocated to the nucleus at levels comparable to those after TCR-**CD28** co-stimulation. NF-kappaB translocation was diminished by PKCtheta inhibition, as was induction of the NF-kappaB/AP-1 responsive activation marker CD69. We propose that co-stimulation is a sequential process in which appropriate TCR engagement is required to mobilize **CD28** into a signaling-competent form which then activates the PKCtheta-NF-kappaB pathway necessary for IL-2 production and proliferation.
Record Date Created: 20030416

3/7/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14656623 22502543 PMID: 12616483
Efficient expansion of regulatory T cells in vitro and in vivo with a **CD28** superagonist.
Lin Chia-Huey; **Hunig Thomas**
Institute for Virology and Immunobiology, University of Wurzburg, Versbacherstrasse 7, D-97078 Wurzburg, Germany.
European journal of immunology (Germany) Mar 2003, 33 (3) p626-38, ISSN 0014-2980 Journal Code: 1273201
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
CD4(+)CD25(+) T cells play a central role in the suppression of autoimmunity and inflammation, making their in vivo expansion a highly attractive therapeutic target. By phenotyping with a novel rat CTL antigen-4 (CTLA-4)-specific monoclonal antibody (mAb) and functional in vitro assays, we here first establish that rat CD4(+)CD25(+) T cells

correspond to the regulatory T cells (Treg cells) described in mice and humans: they constitutively express CTLA-4, produce IL-10 but not IL-2, and are able to suppress the proliferation of costimulated CD25-negative indicator cells. Furthermore, we show that rat Treg cells respond less well than CD25(-) T cells to conventional costimulation, but are readily expanded in vitro with "superagonistic" **CD28**-specific mAb which are potent mitogens for all T cells without the need for TCR engagement. In vivo, functional Treg cells are preferentially expanded by **CD28** stimulation over other T cell subsets, leading to a 20-fold increase within 3 days in response to a single antibody dose. These data suggest that **CD28** -driven activation of Treg cells may be highly effective in the treatment of inflammatory and autoimmune diseases.
Record Date Created: 20030304
Record Date Completed: 20030402

3/7/4 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

138037734 CA: 138(4)37734m JOURNAL
Investigation of the immunosuppressive potential of anti-CD28 antibodies for selective inhibition of the T-cell mediated alloresponse
AUTHOR(S): Otto, C.; Feuerlein, S.; Timmermann, W.; Ulrichs, K.; Hunig, T.; Thiede, A.; Gassel, H. J.
LOCATION: Department of Surgery, University of Wuerzburg, Wuerzburg, Germany,
JOURNAL: Transplant. Proc. (Transplantation Proceedings) DATE: 2002
VOLUME: 34 NUMBER: 6 PAGES: 2376 CODEN: TRPPA8 ISSN: 0041-1345
PUBLISHER ITEM IDENTIFIER: 0041-1345(02)03277-3 LANGUAGE: English
PUBLISHER: Elsevier Science Inc.
SECTION:
CA215003 Immunochemistry
IDENTIFIERS: monoclonal antibody CD28 immunosuppression heart allograft
DESCRIPTORS:
Transplant and Transplantation...
allotransplant, heart; immunosuppressive potential of anti-CD28 antibodies for selective inhibition of the T-cell mediated alloresponse in
Heart...
allotransplant; immunosuppressive potential of anti-CD28 antibodies for selective inhibition of the T-cell mediated alloresponse in
CD28(antigen)... Immunosuppression... T cell(lymphocyte)...
immunosuppressive potential of anti-CD28 antibodies for selective inhibition of the T-cell mediated alloresponse
Antibodies...
monoclonal; immunosuppressive potential of anti-CD28 antibodies for selective inhibition of the T-cell mediated alloresponse

3/7/5 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

134177350 CA: 134(13)177350a PATENT
Use of CD28-specific monoclonal antibodies for producing a pharmaceutical composition for treating virus infections
INVENTOR(AUTHOR): Hunig, Thomas
LOCATION: Germany,
PATENT: PCT International ; WO 200112224 A1 DATE: 20010222
APPLICATION: WO 2000DE2596 (20000727) *DE 19939653 (19990813)
PAGES: 58 pp. CODEN: PIXXD2 LANGUAGE: German CLASS: A61K-039/395A; A61K-031/70B; A61K-031/47B; A61P-031/12B; A61K-039/395B; A61K-031/70B; A61K-039/395B; A61K-031/47B DESIGNATED COUNTRIES: AE; AL; AM; AT; AU; AZ;

BA; BB; BG; BR; BY; CA; CH; CN; CR; CU; CZ; DK; DM; EE; ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE; LS; MW; MZ; SD; SL; SZ ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

SECTION:

CA215002 Immunochemistry

CA263XXX Pharmaceuticals

IDENTIFIERS: monoclonal antibody CD28 antigen virucide

DESCRIPTORS:

T cell(lymphocyte)...

activation of; CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

CD28(antigen)...

antibodies to; CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

AIDS(disease)... Antigen receptors... Antiviral agents... Drug delivery systems... Hybridoma... Pyrimidine nucleosides...

CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

Human immunodeficiency virus... Lentivirus... Retroviridae...

infection; CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

Antibodies...

monoclonal; CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

CAS REGISTRY NUMBERS:

30516-87-1 37205-61-1 134678-17-4 CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

9068-38-6 inhibitors; CD28-specific monoclonal antibodies for producing a pharmaceutical compn. for treating virus infections

3/7/6 (Item 3 from file: 399)

DIALOG(R)File 399:CA SEARCH(R)

132333124 CA: 132(25)333124w JOURNAL

Autonomous induction of proliferation, JNK and NF-.kappa.B activation in primary resting T cells by mobilized CD28

AUTHOR(S): Bischof, Astrid; Hara, Toyomichi; Lin, Chia-Huey; Beyers, Albertus D.; Hunig, Thomas

LOCATION: Institute for Virology and Immunobiology, University of Wurzburg, Wurzburg, Germany,

JOURNAL: Eur. J. Immunol. DATE: 2000 VOLUME: 30 NUMBER: 3 PAGES: 876-882 CODEN: EJIMAF ISSN: 0014-2980 LANGUAGE: English PUBLISHER: Wiley-VCH Verlag GmbH

SECTION:

CA215002 Immunochemistry

IDENTIFIERS: T cell proliferation Jun kinase NF kappaB CD28

DESCRIPTORS:

CD28(antigen)...

autonomous induction of proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by

Cytoskeleton...

autonomous induction of proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by CD28 in relation to rearrangement of

Signal transduction,biological... TCR(T cell receptors)...

autonomous induction of proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by CD28 signaling

Transcription factors...

NF-.kappa.B (nuclear factor .kappa.B); autonomous induction of

proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by CD28 signaling
T cell(lymphocyte)...
proliferation; autonomous induction of proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by CD28 signaling
Cell proliferation...
T cell; autonomous induction of proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by CD28 signaling
CAS REGISTRY NUMBERS:
155215-87-5 autonomous induction of proliferation and Jun kinase and NF-.kappa.B activation in resting T-cells by CD28 signaling

3/7/7 (Item 4 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

132034744 CA: 132(4)34744e JOURNAL
Triggering of T cell proliferation through CD28 induces GATA-3 and promotes T helper type 2 differentiation in vitro and in vivo
AUTHOR(S): Rodriguez-Palmero, Marta; Hara, Toyomichi; Thumbs, Alexander; Hunig, Thomas
LOCATION: Institute Virology Immunobiology, Univ. Wurzburg, Wurzburg, Germany, D-97078
JOURNAL: Eur. J. Immunol. DATE: 1999 VOLUME: 29 NUMBER: 12 PAGES: 3914-3924 CODEN: EJIMAF ISSN: 0014-2980 LANGUAGE: English PUBLISHER: Wiley-VCH Verlag GmbH
SECTION:
CA215010 Immunochemistry
IDENTIFIERS: T cell proliferation CD28 GATA3 Th2, Ig Th2 T cell CD28 GATA3, interleukin Th2 T cell CD28 GATA3
DESCRIPTORS:
Immunoglobulins...
CD28 effect on T cell proliferation and Ig prodn. influenced by GATA-3 in Th2 differentiation
Interleukin 10... Interleukin 4...
CD28 effect on T cell proliferation and interleukin prodn. influenced by GATA-3 in Th2 differentiation
Immunoglobulins...
E; CD28 effect on T cell proliferation and Ig prodn. influenced by GATA-3 in Th2 differentiation
Transcription factors...
GATA-3; T cell proliferation triggered through CD28 induced GATA-3 and promoted Th2 differentiation
Immunoglobulins...
G2a; CD28 effect on T cell proliferation and Ig prodn. influenced by GATA-3 in Th2 differentiation
T cell(lymphocyte)...
helper cell/inducer, TH2; T cell proliferation triggered through CD28 induced GATA-3 and promoted Th2 differentiation
Immunoglobulins...
M; CD28 effect on T cell proliferation and Ig prodn. influenced by GATA-3 in Th2 differentiation
T cell(lymphocyte)...
proliferation; T cell proliferation triggered through CD28 induced GATA-3 and promoted Th2 differentiation
CD28(antigen)...
T cell proliferation triggered through CD28 induced GATA-3 and promoted Th2 differentiation

3/7/8 (Item 5 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

131004202 CA: 131(1)4202p JOURNAL
Prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation
AUTHOR(S): Dengler, Thomas J.; Szabo, G.; Sido, B.; Nottmeyer, W.; Zimmerman, R.; Vahl, C. F.; Hunig, T.; Meuer, S. C.
LOCATION: Department of Cardiology, Medical University Hospital, University of Heidelberg, Heidelberg, Germany, 69115
JOURNAL: Transplantation DATE: 1999 VOLUME: 67 NUMBER: 3 PAGES: 392-398 CODEN: TRPLAU ISSN: 0041-1337 LANGUAGE: English PUBLISHER: Lippincott Williams & Wilkins
SECTION:
CA215010 Immunochemistry
IDENTIFIERS: heart allograft immunosuppression CD28 monoclonal antibody
DESCRIPTORS:
Antigens...
alloantigens; prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation
Transplant and Transplantation...
allotransplant, heart; prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation
Heart... Transplant and Transplantation...
allotransplant; prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation
Antibodies...
monoclonal; prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation
CD28(antigen)... CTLA-4(antigen)... Immune tolerance... Immunosuppression ... Signal transduction,biological...
prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation
Cell activation...
T-cell; prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation

3/7/9 (Item 6 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

130037308 CA: 130(4)37308k PATENT
Human CD28 specific monoclonal antibodies for antigen non-specific activation of T-lymphocytes
INVENTOR(AUTHOR): Hunig, Thomas; Tacke, Michael; Hanke, Thomas; Hanke, Gabriele; Hara, Toyomichi; Rodriguez-Palmero, Marta
LOCATION: Germany,
PATENT: PCT International ; WO 9854225 A2 DATE: 19981203
APPLICATION: WO 98DE1499 (19980528) *DE 19722888 (19970528)
PAGES: 41 pp. CODEN: PIXXD2 LANGUAGE: German CLASS: C07K-016/00A
DESIGNATED COUNTRIES: AL; AM; AU; BA; BB; BG; BR; BY; CA; CN; CU; CZ; EE; GE; HU; ID; IL; IS; JP; KG; KP; KR; KZ; LK; LR; LT; LV; MD; MG; MK; MN; MX; NO; NZ; PL; RO; RU; SG; SI; SK; TJ; TM; TR; TT; UA; US; UZ; VN; YU
DESIGNATED REGIONAL: GH; GM; KE; LS; MW; SD; SZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG
SECTION:
CA215003 Immunochemistry
IDENTIFIERS: monoclonal antibody CD28 T lymphocyte immunotherapy disease
DESCRIPTORS:

T cell infection...
CD4-pos. T cell; human CD28-specific monoclonal antibodies for antigen non-specific activation of T-lymphocytes and their use in disease therapy
AIDS(disease)... Allergies... Allograft... Antigens... Autoimmune diseases ... B cell hybridoma... Body fluid... cDNA... CD28(antigen)... CD4-positive T cell... Chemokines... Chemotherapy... Contact dermatitis... Cytokines... Escherichia coli... Genes(animal)... Hematopoietic stem cell... Human immunodeficiency virus 1... Immunization... Immunostimulation... Immunotherapy... Inflammatory bowel diseases... Insulin dependent diabetes mellitus... Interleukin 10... Interleukin 4... Leukemia... Monoclonal antibodies... Mouse... Multiple sclerosis... Plasmid vectors... Polyoxyalkylenes,biological studies... Protoplast... Rheumatoid arthritis ... T cell activation... T cell proliferation... T cell(lymphocyte)... TCR(T cell receptors)... Th1 cell... Th2 cell... Tumors(animal)...
human CD28-specific monoclonal antibodies for antigen non-specific activation of T-lymphocytes and their use in disease therapy
CD4-positive T cell...
infection; human CD28-specific monoclonal antibodies for antigen non-specific activation of T-lymphocytes and their use in disease therapy
CAS REGISTRY NUMBERS:
25322-68-3 human CD28-specific monoclonal antibodies for antigen non-specific activation of T-lymphocytes and their use in disease therapy
?
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
? s (JJ319 or CMY(W)2)(20n)(antibod?) and cd28
20 JJ319
229 CMY
8793771 2
122 CMY(W)2
1807589 ANTIBOD?
18 (JJ319 OR CMY(W)2)(20N)ANTIBOD?
14859 CD28
S4 16 (JJ319 OR CMY(W)2)(20N)(ANTIBOD?) AND CD28
? rd s4
...completed examining records
S5 8 RD S4 (unique items)
? t s5/3/all

5/3/1 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13614797 BIOSIS NO.: 200200243618
A signaling anti-**CD28** monoclonal **antibody** (**JJ319**)
mitagates early renal dysfunction secondary to ischemia/reperfusion injury.
AUTHOR: Ames James B(a); Laskowski Igor A(a); Dong Victor M; Gasser Martin (a); Sayegh Mohamed H; Tilney Nicholas L(a)
AUTHOR ADDRESS: (a)Surgical Research Laboratory, Harvard Medical School, Boston, MA**USA
JOURNAL: Journal of the American Society of Nephrology 11 (Program and Abstract Issue):p585A-586A September, 2000
MEDIUM: print
CONFERENCE/MEETING: 33rd Annual Meeting of the American Society of Nephrology and the 2000 Renal Week Toronto, Ontario, Canada October 10-16, 2000
ISSN: 1046-6673
RECORD TYPE: Citation
LANGUAGE: English

5/3/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

13592310 BIOSIS NO.: 200200221131
Differential effect of **CD28** versus B7 blockade on direct pathway of allorecognition and self-restricted responses.
AUTHOR: Haspot Fabienne; Villemain Florence; Laflamme Genevieve; Coulon Flora; Olive Daniel; Tiollier Jerome; Soulillou Jean-Paul(a); Vanhove Bernard
AUTHOR ADDRESS: (a)ITERT, INSERM U437, CHU Hotel Dieu, 30 Bld Jean Monnet, 44093, Nantes**France E-Mail: bvanhove@nantes.inserm.fr
JOURNAL: Blood 99 (6):p2228-2234 March 15, 2002
MEDIUM: print
ISSN: 0006-4971
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

5/3/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

11929953 BIOSIS NO.: 199900176062
Prolonged allograft survival but no tolerance induction by modulating **CD28 antibody JJ319** after high-responder rat heart transplantation.
AUTHOR: Dengler Thomas J(a); Szabo G; Sido B; Nottmeyer W; Zimmerman R; Vahl C F; Hunig T; Meuer S C
AUTHOR ADDRESS: (a)Boyer Cent. Mol. Med., Mol. Cardiobiol., No. 449, Yale Sch. Med., New Haven, CT 06510**USA
JOURNAL: Transplantation (Baltimore) 67 (3):p392-398 Feb. 15, 1999
ISSN: 0041-1337
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

5/3/4 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10789059 BIOSIS NO.: 199799410204
CD28-mediated induction of proliferation in resting T cells in vitro and in vivo without engagement of the T cell receptor: Evidence for functionally distinct forms of **CD28**.
AUTHOR: Tacke Michael; Hanke Gabriele; Hanke Thomas; Huenig Thomas(a)
AUTHOR ADDRESS: (a)Inst. Virol. Immunobiol., Versbacher Str. 7, D-97078 Wuerzburg**Germany
JOURNAL: European Journal of Immunology 27 (1):p239-247 1997
ISSN: 0014-2980
RECORD TYPE: Abstract
LANGUAGE: English

5/3/5 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

11834849 EMBASE No: 2002406931
Investigation of the immunosuppressive potential of anti-**CD28** antibodies for selective inhibition of the T-cell mediated alloresponse
Otto C.; Feuerlein S.; Timmermann W.; Ulrichs K.; Hunig T.; Thiede A.;

Gassel H.J.
Dr. C. Otto, Department of Surgery, Exp. Transplantation Immunology, University of Wuerzburg, Josef-Schneider Str. 2, D-97080 Wurzburg Germany
AUTHOR EMAIL: chotto@chirurgie.uni-wuerzburg.de
Transplantation Proceedings (TRANSPLANT. PROC.) (United States) 2002, 34/6 (2376)
CODEN: TRPPA ISSN: 0041-1345
PUBLISHER ITEM IDENTIFIER: S0041134502032773
DOCUMENT TYPE: Journal ; Conference Paper
LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 4

5/3/6 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE
(c) 2003 Elsevier Science B.V. All rts. reserv.

06118022 EMBASE No: 1995148756
Cellular distribution and costimulatory function of rat **CD28**: Regulated expression during thymocyte maturation and induction of cyclosporin A sensitivity of costimulated T cell responses by phorbol ester
Tacke M.; Clark G.J.; Dallman M.J.; Hunig T.
Inst. fur Virologie/Immunbiologie, Versbacher Strasse 7,D-97078 Wurzburg Germany
Journal of Immunology (J. IMMUNOL.) (United States) 1995, 154/10 (5121-5127)
CODEN: JOIMA ISSN: 0022-1767
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

5/3/7 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2003 American Chemical Society. All rts. reserv.

136335776 CA: 136(22)335776s JOURNAL
Increased Yield and Activity of Soluble Single-Chain Antibody Fragments by Combining High-Level Expression and the Skp Periplasmic Chaperonin
AUTHOR(S): Mavrangelos, Chris; Thiel, Michael; Adamson, Penelope J.; Millard, Debbrah J.; Nobbs, Silvia; Zola, Heddy; Nicholson, Ian C.
LOCATION: Child Health Research Institute, North Adelaide, 5006, Australia
JOURNAL: Protein Expression Purif. DATE: 2001 VOLUME: 23 NUMBER: 2
PAGES: 289-295 CODEN: PEXPEJ ISSN: 1046-5928 LANGUAGE: English
PUBLISHER: Academic Press

5/3/8 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)
(c) 2003 American Chemical Society. All rts. reserv.

136308544 CA: 136(20)308544h PATENT
Use of CD28-specific monoclonal antibodies for stimulating blood cells that lack CD28
INVENTOR(AUTHOR): Huenig, Thomas; Rodriguez-Palmero, Marta; Kerkau, Thomas
LOCATION: Germany,
ASSIGNEE: Tegenero Gmbh
PATENT: PCT International ; WO 200230459 A1 DATE: 20020418
APPLICATION: WO 2001DE3802 (20010928) *DE 10050935 (20001011)
PAGES: 62 pp. CODEN: PIXXD2 LANGUAGE: German CLASS: A61K-039/395A; A61P-007/06B; C07K-016/28B DESIGNATED COUNTRIES: AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; BZ; CA; CH; CN; CO; CR; CU; CZ; DK; DM; DZ; EC; EE;

ES; FI; GB; GD; GE; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ; NO; NZ; PH; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; TZ; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM ; KE; LS; MW; MZ; SD; SL; SZ; TZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; TR; BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW; ML; MR; NE; SN; TD; TG

```
? t s5/7/6

 5/7/6     (Item 2 from file: 73)
DIALOG(R)File  73:EMBASE
(c) 2003 Elsevier Science B.V. All rts. reserv.
```

06118022 EMBASE No: 1995148756

Cellular distribution and costimulatory function of rat **CD28**: Regulated expression during thymocyte maturation and induction of cyclosporin A sensitivity of costimulated T cell responses by phorbol ester

Tacke M.; Clark G.J.; Dallman M.J.; Hunig T.

Inst. fur Virologie/Immunbiologie, Versbacher Strasse 7,D-97078 Wurzburg Germany

Journal of Immunology (J. IMMUNOL.) (United States) 1995, 154/10 (5121-5127)

CODEN: JOIMA ISSN: 0022-1767

DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH

CD28 has been identified in man and mouse as a potent costimulatory receptor on T cells. We have generated a mAb, called JJ319, to rat **CD28** and show that it is expressed on virtually all peripheral rat alphabeta and on most gammadelta T cells, and on about half of NK cells. In contrast to the mouse but as in humans, most immature CD4sup +8sup +TCR(low) thymocytes express little or no **CD28**, whereas **CD28** expression is high on TCR(intermediate) and TCR(high) cells. mAb JJ319 very effectively costimulates T cell proliferation and IL-2 secretion by resting rat T cells. In contrast to results obtained in mice and humans, phorbol ester did not synergize in T cell activation with **CD28**- specific mAb but even induced sensitivity to cyclosporin A in T cell cultures that were optimally costimulated by mAbs to the TCR and to **CD28**. This result points to a novel effect of protein kinase activation by phorbol ester on signal transduction by TCR plus **CD28** costimulation which only becomes apparent if, as in the rat, the TCR-mediated signal cannot be replaced by phorbol ester.

```
? s(cd28)(10n)(agonist?)(20n(crosslink? or cross(W)link?)
          14859  CD28
              0  AGONIST?)(20N(CROSSLINK?
              0  CD28(10N)AGONIST?)(20N(CROSSLINK?
         743340  CROSS
              0  LINK?)
              0  CROSS(W)LINK?)
      S6      0  (CD28)(10N)(AGONIST?)(20N(CROSSLINK? OR CROSS(W)LINK?)
? s(cd28)(10n)(agonist?)(20n)(crosslink? or cross(W)link?)
          14859  CD28
         423291  AGONIST?
         182387  CROSSLINK?
         743340  CROSS
         991620  LINK?
         106802  CROSS(W)LINK?
      S7     12  (CD28)(10N)(AGONIST?)(20N)(CROSSLINK? OR CROSS(W)LINK?)
? rd s7
...completed examining records
      S8      5  RD S7 (unique items)
? t s8/7/all

 8/7/1     (Item 1 from file: 5)
```

DIALOG(R)File 5:Biosis Previews(R)

11386214 BIOSIS NO.: 199800167546
The potential roles of 4-1BB costimulation in HIV type 1 infection.
AUTHOR: Wang Sa; Kim Young-J; Bick Carol; Kim Seung H; Kwon Byoung S(a)
AUTHOR ADDRESS: (a)Dep. Microbiol. Immunol., Indiana Univ. Sch. Med., 635 Barnhill Drive, Indianapolis, IN 46202-51**USA
JOURNAL: AIDS Research and Human Retroviruses 14 (3):p223-231 Feb. 10, 1998
ISSN: 0889-2229
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The potential role of 4-1BB in human immunodeficiency virus (HIV-1)-infected T cells was investigated with HIV-1-infected subjects. 4-1BB expression was readily inducible on PHA stimulation of T cells from HIV-1-infected individuals. The level of 4-1BB expression and the percentage of 4-1BB-expressing T cells were higher in HIV-1+ individuals than in the HIV-1- controls ($p < 0.01$). The difference in 4-1BB expression was more significant in CD8+ T cells and the high level of 4-1BB expression was correlated with low CD4+ T cell counts ($r = -0.63$, $p < 0.05$). 4-1BB signal cooperated with **CD28** for proper HIV-1+ CD4+ T cell proliferation. In addition, **cross-linking** 4-1BB with **agonistic** monoclonal antibody enhanced HIV-1 replication both in primary stimulation and secondary restimulation of CD4+ T cells from HIV-1+ individuals. To test whether 4-1BB cross-linking signals an activation of HIV-1, J8-1, a 4-1BB+ Jurkat subline, was transiently transfected with pHIV-1-LTR-CAT plasmid and stimulated through 4-1BB. Combined stimulation of 4-1BB and CD3 resulted in an enhanced CAT activity compared with CD3 stimulation alone. Thus, 4-1BB may be involved in the activation of HIV-1 replication from latently infected CD4+ T cells.

8/7/2 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

10758722 BIOSIS NO.: 199799379867
CD28-B7 interactions function to co-stimulate clonal deletion of double-positive thymocytes.
AUTHOR: Amsen Derk; Kruisbeek Ada M(a)
AUTHOR ADDRESS: (a)Div. Immunology, Netherlands Cancer Inst., Antoni van Leeuwenhoek Huis, Plesmanlaan 121, 1066 CX**Netherlands
JOURNAL: International Immunology 8 (12):p1927-1936 1996
ISSN: 0953-8178
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Negative selection of thymocytes only occurs if next to signals through the TCR, additional antigen-presenting cell (APC)-derived signals are also provided. It has been unclear which molecular interactions lead to the generation of these signals. In particular, the Involvement of **CD28** and its ligands B7-1 and B7-2 has been controversial. In the present study, we re-address this issue and first confirm that **cross-linking CD28** molecules on thymocytes can indeed complement TCR-derived signals for induction of deletion upon TCR engagement with antibodies. Furthermore, we extend these findings by documenting that also peptide **agonist**-induced deletion can be co-stimulated by antibody-mediated engagement of CD28. Additionally, blocking B7-1 or B7-2 reduces negative selection induced by both anti-CD3 and peptide agonist in suspension cultures and in fetal thymic organ

culture. At the same time, prominent co-stimulation of TCR-induced deletion could be provided by a B7-negative cell line. Together these results definitively demonstrate that CD28-B7 interactions can function to co-stimulate induction of clonal deletion, while yet to be identified B7-independent co-stimulatory signals can fulfil this function as well.

8/7/3 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

08842168 BIOSIS NO.: 199395131519
Peptide-major histocompatibility complex class II complexes with mixed agonist/antagonist properties provide evidence for ligand-related differences in T cell receptor-dependent intracellular signaling.
AUTHOR: Racioppi Luigi; Ronchese Franca; Matis Louis A; Germain Ronald N(a)
AUTHOR ADDRESS: (a)Lab. Immunol., Natl. Inst. of Allergy and Infectious Diseases, Natl. Inst. of Health, Building 1**USA
JOURNAL: Journal of Experimental Medicine 177 (4):p1047-1060 1993
ISSN: 0022-1007
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Clonal activation of CD4+ and CD8+ T lymphocytes depends on binding of peptide-major histocompatibility complex (MHC) molecule complexes by their alpha/beta receptors, eventually resulting in sufficient aggregation to initiated second messenger generation. The nature of intracellular signals resulting from such T cell receptor (TCR) occupancy is believed to be independent of the specific structure of the ligand being bound, and to vary quantitatively, not qualitatively, with the concentration of ligand offered and the affinity of the receptor for the peptide-MHC molecule complex. In contrast to the expectations of this model, the analysis of the response of a T helper type 1 clone to mutant E-alpha-E-beta-k molecules in the absence or presence of a peptide antigen revealed that peptide inhibited the interleukin 2 (IL-2) response to an otherwise allostimulatory mutant form of this MHC class II molecule. The inhibition was not due to competition for formation of alloantigen, it required TCR recognition of peptide-mutant MHC molecule complexes, and it decreased IL-2 production without affecting receptor-dependent IL-3, IL-2 receptor alpha, or size enlargement responses. This preferential reduction in IL-2 secretion could be correlated with the costimulatory signal dependence of this cytokine response, but could not be overcome by **crosslinking** the **CD28** molecule on the T cell. These results define a new class of TCR ligands with mixed **agonist**/antagonist properties, and point to a ligand-related variation in the quality of clonotypic receptor signaling events or their integration with other signaling processes. It was also found that a single TCR ligand showed greatly different dose thresholds for the elicitation of distinct effector responses from a cloned T cell population. The observations that changes in ligand structure can result in qualitative alterations in the effects of receptor occupancy and that quantitative variations in ligand density can be translated into qualitative differences in T cell responses have important implications for models of intrathymic selection and control of the results of active immunization.

8/7/4 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

07454784 EMBASE No: 1998363988
CD99 engagement on human peripheral blood T cells results in TCR/CD3-

dependent cellular activation and allows for Th1-restricted cytokine production

Waclavicek M.; Majdic O.; Stulnig T.; Berger M.; Sunder-Plassmann R.; Zlabinger G.J.; Baumruker T.; Stockl J.; Ebner C.; Knapp W.; Pickl W.F.
Dr. W.F. Pickl, Institute of Immunology, University of Vienna, Borschkegasse 8A, A-1090 Vienna Austria
AUTHOR EMAIL: winfried.piekl@univie.ac.at

Journal of Immunology (J. IMMUNOL.) (United States) 01 NOV 1998, 161/9 (4671-4678)
CODEN: JOIMA ISSN: 0022-1767
DOCUMENT TYPE: Journal; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 64

We have assessed the functional effect of CD99 engagement on resting human peripheral blood (PB) T cells. CD99, as detected by the mAb 3B2/TA8, is constitutively expressed on all PB T cells and becomes further up-regulated upon cellular activation. In this study we demonstrate that **cross-linking** of the CD99 molecule with the **agonistic** mAb 3B2/TA8 cooperates with suboptimal TCR/CD3 signals, but not with phorbol ester, ionomycin, or **CD28** mAb stimulation, to induce proliferation of resting PB T cells. Comparable stimulatory effects were observed with the CD99 mAb 12E7. Characterization of the signaling pathways involved revealed that CD99 engagement leads to the elevation of intracellular Casup 2sup +, which is dependent on the cell surface expression of the TCR/CD3 complex. No CD99 mAb-induced calcium mobilization was observed on TCR/CD3-modulated or TCR/CD3-negative T cells. To examine the impact of CD99 stimulation on subsequent cytokine production by T cells, we cross-linked CD99 molecules in the presence of a suboptimal TCR/CD3 trigger followed by determination of intracellular cytokine levels. Significantly, T cell lines as well as Th1 and Th0 clones synthesized TNF-alpha and IFN-gamma after this treatment. In contrast, Th2 clones were unable to produce IL-4 or IFN-gamma when stimulated in a similar fashion. We conclude that CD99 is a receptor that mediates TCR/CD3-dependent activation of resting PB T cells and specifically induces Th1-type cytokine production in polyclonally activated T cell lines, Th1 and Th0 clones.

8/7/5 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09414711 21181855 PMID: 11285286

Role of diacylglycerol kinase alpha in the attenuation of receptor signaling.

Sanjuan M A; Jones D R; Izquierdo M; Merida I
Department of Immunology and Oncology, Centro Nacional de Biotecnologia, Consejo Superior de Investigaciones Cientificas, E-28049 Madrid, Spain.

Journal of cell biology (United States) Apr 2 2001, 153 (1) p207-20, ISSN 0021-9525 Journal Code: 0375356
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed

Diacylglycerol kinase (DGK) is suggested to attenuate diacylglycerol-induced cell responses through the phosphorylation of this second messenger to phosphatidic acid. Here, we show that DGKalpha, an isoform highly expressed in T lymphocytes, translocates from cytosol to the plasma membrane in response to two different receptors known to elicit T cell activation responses: an ectopically expressed muscarinic type I receptor and the endogenous T cell receptor. Translocation in response to receptor stimulation is rapid, transient, and requires calcium and tyrosine kinase activation. DGKalpha-mediated phosphatidic acid generation allows dissociation of the enzyme from the plasma membrane and return to the

cytosol, as demonstrated using a pharmacological inhibitor and a catalytically inactive version of the enzyme. The NH(2)-terminal domain of the protein is shown to be responsible for receptor-induced translocation and phosphatidic acid-mediated membrane dissociation. After examining induction of the T cell activation marker CD69 in cells expressing a constitutively active form of the enzyme, we present evidence of the negative regulation that DGKalpha exerts on diacylglycerol-derived cell responses. This study is the first to describe DGKalpha as an integral component of the signaling cascades that link plasma membrane receptors to nuclear responses.

Record Date Created: 20010404
Record Date Completed: 20010521

```
? s(cd28)(10n)(agonist?) and (antibod?)(10n)(crosslink? or cross(W)link?)
          14859  CD28
         423291  AGONIST?
             83  CD28(10N)AGONIST?
        1807589  ANTIBOD?
         182387  CROSSLINK?
         743340  CROSS
         991620  LINK?
         106802  CROSS(W)LINK?
           8015  ANTIBOD?(10N)(CROSSLINK? OR CROSS(W)LINK?)
      S9       0  (CD28)(10N)(AGONIST?) AND (ANTIBOD?)(10N)(CROSSLINK? OR
                  CROSS(W)LINK?)
? s(cd28)(10n)(antibod?)(10n)(crosslink? or cross(W)link?)
          14859  CD28
        1807589  ANTIBOD?
         182387  CROSSLINK?
         743340  CROSS
         991620  LINK?
         106802  CROSS(W)LINK?
     S10   132  (CD28)(10N)(ANTIBOD?)(10N)(CROSSLINK? OR CROSS(W)LINK?)
? rd s10
...examined 50 records  (50)
...examined 50 records  (100)
...completed examining records
     S11    64  RD S10 (unique items)
? ds

Set     Items   Description
S1         62   E1-E8
S2         11   S1 AND CD28
S3          9   RD S2 (unique items)
S4         16   (JJ319 OR CMY(W)2)(20N)(ANTIBOD?) AND CD28
S5          8   RD S4 (unique items)
S6          0   (CD28)(10N)(AGONIST?)(20N(CROSSLINK? OR CROSS(W)LINK?)
S7         12   (CD28)(10N)(AGONIST?)(20N)(CROSSLINK? OR CROSS(W)LINK?)
S8          5   RD S7 (unique items)
S9          0   (CD28)(10N)(AGONIST?) AND (ANTIBOD?)(10N)(CROSSLINK? OR CR-
              OSS(W)LINK?)
S10       132   (CD28)(10N)(ANTIBOD?)(10N)(CROSSLINK? OR CROSS(W)LINK?)
S11        64   RD S10 (unique items)
?
```

Entrez PubMed

- The Clipboard will hold a maximum of 500 items.
- Clipboard items will be lost after one hour of inactivity.

PubMed Services

Related Resources

1: Tacke M, Hanke G, Hanke T, Hunig T. Related Articles

CD28-mediated induction of proliferation in resting T cells in vitro and in vivo without engagement of the T cell receptor: evidence for functionally distinct forms of CD28.
Eur J Immunol. 1997 Jan;27(1):239-47.
PMID: 9022025 [PubMed - indexed for MEDLINE]

2: Siefken R, Klein-Hessling S, Serfling E, Kurrle R, Schwinzer R. Related Articles

A CD28-associated signaling pathway leading to cytokine gene transcription and T cell proliferation without TCR engagement.
J Immunol. 1998 Aug 15;161(4):1645-51.
PMID: 9712026 [PubMed - indexed for MEDLINE]

3: Bischof A, Hara T, Lin CH, Beyers AD, Hunig T. Related Articles

Autonomous induction of proliferation, JNK and NF-alphaB activation in primary resting T cells by mobilized CD28.
Eur J Immunol. 2000 Mar;30(3):876-82.
PMID: 10741404 [PubMed - indexed for MEDLINE]

4: Dengler TJ, Szabo G, Sido B, Nottmeyer W, Zimmerman R, Vahl CF, Hunig T, Meuer SC. Related Articles

Prolonged allograft survival but no tolerance induction by modulating CD28 antibody JJ319 after high-responder rat heart transplantation.
Transplantation. 1999 Feb 15;67(3):392-8.
PMID: 10030284 [PubMed - indexed for MEDLINE]

5: Siefken R, Kurrle R, Schwinzer R. Related Articles

CD28-mediated activation of resting human T cells without costimulation of the CD3/TCR complex.
Cell Immunol. 1997 Feb 25;176(1):59-65.
PMID: 9070318 [PubMed - indexed for MEDLINE]

6: Brinkmann V, Kinzel B, Kristofic C. Related Articles

TCR-independent activation of human CD4+ 45RO- T cells by anti-CD28 plus IL-2: Induction of clonal expansion and priming for a Th2 phenotype.
J Immunol. 1996 Jun 1;156(11):4100-6.
PMID: 8666775 [PubMed - indexed for MEDLINE]